Blocking up of the checkerwork by dust deposits occurs progressively, and a number of schemes have been tried for increasing the time between clean-outs. This dust collects upon the upper portion of the checkerwork and causes more trouble in the air checker than it does in the gas, for the reason that the gas usually enters the regenerators under pressure and this pressure can be increased to overcome increased resistance. The air, however, enters the checker under atmospheric pressure, and its flow is induced by the chimney effect caused by the heat it absorbs acting through a vertical height equal to the distance from the bottom of the checkerwork to the port. It naturally follows that increased resistance will have a considerable effect in reducing the air supply, and it is frequently necessary to put a fan on the air supply after 400 to 500 heats. Running the gas through the air checkers has been the subject of a patent, the idea being based upon the reducing action of the gas, but this deposit contains very little iron ore when there are adequate cinder pockets. The composition of this deposit at the Donetz-Jurjewka works was:

COMPOSITION OF DEPOSIT IN CHECKERS

	Gas	Air
Additions and limestone, per cent	26 0	37 0
Furnace lining, per rent	0 8	1 5
Cinder per cent	28 2	16 0
Silicct brick per cent	45 0	45 5

Frank Orth has designed a checker in which the size of the pass increases in four steps, being widest at the top and narrowest at the bottom. While G. L. Danforth, Jr., arranges the top of the checkerwork in a series of blocks surrounded by channels about 6 in wide and about 2 ft deep. Another arrangement, by Danforth, provides a number of pits in the top of the checkerwork.

The number, perimeter and depth of the pits giving an entry area eqxial to the entry area at the top of the checkerwork. In both cases the purpose is to provide space for the deposit and at the name time prevent it from blocking up the checkerwork. .The dust deposit will in time attain a thickness of 1.0 to 2.0 in at the top of the checker and its effect in increasing the resistance